

Large-Scale Demonstration and Deployment Project (LSDDP)

Fact Sheet

Fuel Pools and Material Dispositioning at the Idaho National Engineering and Environmental Laboratory Project

In Partnership with the Office of Science and Technology (EM-50)

Introduction

The Idaho National Engineering and Environmental Laboratory (INEEL) Fuel Pools and Material Dispositioning Large-Scale Demonstration and Deployment Project (LSDDP) will integrate expertise from the Department of Energy (DOE) and an interdisciplinary Integrating Contractor (IC) Team consisting of one member from each of the following sites: the INEEL, Fernald, Hanford, Mound, Savannah River Site (SRS), and Oak Ridge. The Electric Power Research Institute, the International Union of Operating Engineers, and Florida International University will round out the rest of the IC Team. Participation by these three members will introduce a public utilities perspective, assess human factors issues and maximize the dissemination of information.

The focus of the LSDDP will be demonstration and deployment of improved D&D technologies for fuel pools and associated facilities and for material dispositioning, and to facilitate complex-wide deployments of technologies proven successful in previous large-scale demonstration and deployment projects. These demonstrations and deployments will be targeted at IC Team member sites including INEEL, Savannah River, Mound, Fernald, Hanford, and Oak Ridge. The goal is to make D&D operations safer, faster and more cost effective, thereby decreasing the D&D mortgage complex wide.

Objective

The Fuel Pools and Material Dispositioning project is a combination of two different types of LSDDPs. The first type involves demonstration of innovative and improved D&D technologies, and deployment of one or more demonstrated technologies at a non-host DOE site. The second type involves multiple deployment of innovative and improved D&D technologies at a "host" site and other DOE sites. The main emphasis is the deployment of "under-utilized" technologies.

The new LSDDP at INEEL aims to demonstrate and/or deploy approximately 14 technologies in three categories:

- underutilized technologies for D&D of reactor fuel pools and associated facilities,
- technologies for disassembly and contaminated material dispositioning, and
- technologies that can be rapidly deployed at multiple sites at minimal cost and with a high return on investment.

The target facilities for this LSDDP are spread across the DOE complex. One is reactor pool and supporting facilities in various stages of D&D at INEEL, the Savannah River Site, and other applicable sites at Hanford and Oak Ridge. The project will enable D&D of the INEEL and SRS pools and facilities to be completed faster but with less cost, less secondary waste, and lower health and safety risks to decommissioning workers. It will also aid in subsequent deployments of the best technologies at other sites in the complex.



Another targeted area will be the demonstration facilities being decommissioned at Fernald's Ore Refinery and Recovery Plants and associated facilities and at INEEL's reactors and associated facilities. The variety of demonstration facilities will enable use of technologies for several phases of contaminated material disposition, from characterization to demolition and material sorting.

The project's final objective is to significantly reduce overall life-cycle schedules and costs by deploying successfully demonstrated technologies at a wide range of facilities, including reactor fuel pool facilities and hot cell facilities in various stages of D&D at INEEL, SRS, Hanford, Oak Ridge, and the Mound and Fernald Environmental Management Projects.

Technical Needs

The new LSDDP at INEEL will be to evaluate three categories of technologies that will be either demonstrated, deployed, or both. The three categories of technologies are: contaminated material dispositioning and disassembly technologies; technologies for D&D or reactor fuel pools and associated

facilities; and technologies that can be rapidly deployed at multiple sites at minimal cost with a high return on investment. The INEEL LSDDP is targeting D&D work at the following D&D projects and buildings complex wide.

- Reactor pool and supporting facilities in various stages of D&D at the INEEL (CPP-603, PBF-620, etc.) the SRS R-Basin, and other applicable DOE sites at Hanford and the Oak Ridge National Laboratory.
- The Ore Refinery and Recovery Plants and associated facilities at Fernald and reactors and associated facilities at INEEL.
- Other types of facilities, including hot cell facilities in various stages of deactivation and decommissioning at SRS, INEEL, Hanford, Oak Ridge National Laboratory, Mound and Fernald.

Current Status

Project funding has been secured and a project kick-off meeting was held on in early November 2001.

[http:// www.netl.doe.gov/dd/](http://www.netl.doe.gov/dd/)

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